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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/783,188

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Uwe Dahlmann

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08/09/2006

Clariant Corporation
Industrial Property Department
4000 Monroe Road
Charlotte, NC 28205

EXAMINER

VALENROD, YEVGENY

ART UNIT

PAPER NUMBER

1621

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/783,188

Applicant(s)

DAHLMANN ET AL.

Examiner

Yevgeny Valenrod

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/17/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

Claims 1-11 are generic to the following disclosed patentably distinct species:
Compounds of generic formula (1). The species are independent or distinct because depending on substitution the distinct species can be places in various classes/subclasses. The search for all the species of compound of formula (1) would be burdensome for the office, because the number of possible compounds and functionalities is extremely large. For example, R4 is an organic radical having 1-100 carbon atoms, and D is an organic radical having 1- 600 carbon atoms, such definition does not exclude atoms other than carbon being present in R4 or D and therefore includes a large number of various functionalities which make the search of the whole structure of formula (1) burdensome. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, even though this requirement is traversed. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

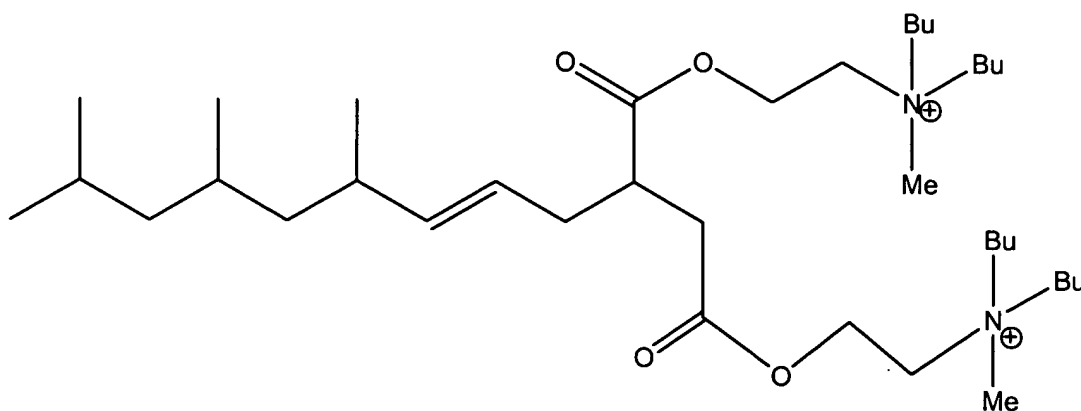
Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after

the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

During a telephone conversation with Richard Silverman on April 28th, 2006 a provisional election was made with traverse to prosecute the invention of N methylated (bis[N,N-Dibutylamino-N-ethyl]tetrapropylenesuccinate (see structure below) claims 1, 3-5, 7-10 are readable on the elected specie. Applicant in replying to this Office action must make affirmation of this election. Claims 2 and 11 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Elected specie:



Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In formula (1) of claim 1, the applicant defines D to be the organic radical which is positioned between the two carbonyl groups of formula (1). In claim 10 it is not clear if the applicant intends to include the entire formula (3) between the carbonyl groups of formula (1) or only a part of that formula, particularly R7, R12 and carbons they are attached to Examiner respectfully requests that the applicant amends the claim to overcome the before mentioned inconsistency in such a way that the amended claim is consistent with the specification.

In order to advance the prosecution of the application the Examiner will interpret claim 10 as defining D as follows: the radical located between the carbonyl groups of formula (3) where all the variables are as defined in the claim.

Double Patenting

Claims 1, 3-7 and 9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 10/783153. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application encompass the limitations of the instant claims. In the co-pending application the claims are directed towards use of the compound as corrosion and gas hydrate inhibitors while the instant application only claims the gas hydrate inhibiting properties of

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the compounds. However, it would be obvious to one of ordinary skill in the art to use the compounds of the copending application in a method of gas hydrate inhibition. The claims correspond as follows: (instant application-copending application) 1-1, 3-2, 4-3, 5-4, 6-5, 7-6 and 9-7.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-6 and 8-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Klomp et al (US 5648575) in view of Klug et al. (WO 98/23843).

Instant application is teaching a method of inhibiting gas hydrate formation, wherein a compound of formula (1) is utilized. Claims 3-6 and 8-10 add additional structural limitation to the compound of formula (1). Claim 3 limits B to C2-C4 alkylene group, claims 4 and 5 limit R1, R2 and R3 to an alkyl or alkenyl groups of 1(2)-12 carbons. Further structural limitations are found in the subsequent claims.

Scope of prior art

Klomp et al teach a method of inhibiting gas hydrate formation using compounds of a generic formula described in column 2, lines 33-65. The formula described by

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Klomp is very broad, but it emphasizes an ion and a preference for ammonium and phosphonium ion in particular Column 2 line 57-58. According to Klomp et al. R4 can be selected from a group consisting of hydrogen and an organic substituent (column 2, line 50) and it may contain one or more heteroatoms (column 2, line 60).

Ascertaining the difference between prior art and instant claims

Although Klomp et al teach a broad class of compounds which includes the compounds of the instant claims, they do not provide motivation for choosing a compound which contains a succinic acid derivative.

Secondary reference

Klug et al. teach compounds of formula (II), (page 3) for use as gas hydrate inhibitors. Compound of formula (II) is a polymer. The monomers of the said polymer, particularly the structure depicted on page 3 a succinic acid derivative. Although it is not depicted the formula (II), it is obvious to a person of ordinary skill in the art that if X is a Hydrogen, the amine in the compound of formula (II) would be protonated and would therefore an ammonium ion.

Motivation to combine

It is well known that gas hydrates can block pipes used for transport of petroleum (Klomp et al. page 1, second paragraph in background). Gas hydrate inhibitors therefore play an important part in transporting petroleum. Klomp et al. teach broad classes of compounds, which can be used as gas hydrate inhibitors. One wishing to practice the invention of Klomp et al. would require additional guidance in choosing compounds that are to be used as gas hydrate inhibitors. Klug et al demonstrate that

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compounds which contain a dicarboxylated moiety, such as succinic acid derivatives, possess gas hydrate inhibiting activity. Klug et al. teachings provide motivation for a person of ordinary skill in the art to choose compounds with dicarboxylated moiety to use in the invention of Klomp et al. Since both Klug and Klomp teach gas hydrate inhibition properties of their compounds, one of ordinary skill in the art would have a reasonable expectation of success in combining the two teachings to come up with succinic acid derivatives that would be gas hydrate inhibitors of a structure claimed in the instant claims 1, 3-6 and 8-10.

Conclusion

Claims 1-11 are pending.

Claims 2 and 11 are withdrawn as drawn to non-elected subject matter

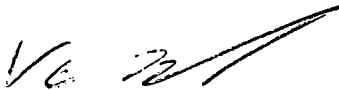
Claims 1, 3-10 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yevgeny Valenrod whose telephone number is 571-272-9049. The examiner can normally be reached on 8:30am-5:00pm M-F.

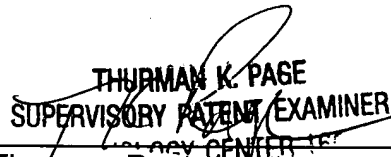
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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